

REMARKS/ARGUMENTS

Claims 1-3 and 5-20 are pending. By this Amendment, the specification is amended, claim 4 is cancelled, and claims 1 and 17 are amended. Support for the amendments to the specification and claim 17 can be found, for example, in International Application No. PCT/EP03/02495, of which the present application is the national stage, at page 5, lines 24 to 27. Support for the amendments to claim 1 can be found, for example, in original claims 1 and 4. No new matter is added. In view of the foregoing amendments and following remarks, reconsideration and allowance are respectfully requested.

Personal Interview

Applicants appreciate the courtesies extended to Applicants' representative by Examiner Bullock during the January 9, 2007 Personal Interview. Applicants' separate record of the substance of the interview is incorporated in the following remarks.

Rejection Under 35 U.S.C. §112, Second Paragraph

The Office Action rejects claim 17 as indefinite under 35 U.S.C. §112, second paragraph. Applicants respectfully traverse the rejection.

The Office Action asserts that claim 17 is indefinite by reason of its recitation of "a pressure ranging from ambient pressure to 120°C." By this Amendment, claim 17 is amended to recite "a pressure ranging from ambient pressure to 120 bar," thus obviating the rejection.

For the foregoing reasons, claim 17 is definite. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Rejection Under 35 U.S.C. §102/§103

The Office Action rejects claims 1-20 under 35 U.S.C. §102(b), or in the alternative under 35 U.S.C. §103(a), over WO 00/58319 to Maas et al. ("Maas")\*. By this Amendment, claim 4 is cancelled, rendering the rejection moot as to that claim. As to the remaining claims, Applicants respectfully traverse the rejection.

Claim 1 recites "[a] process for the oligomerization of  $\alpha$ -olefins having at least three carbon atoms, in which the olefin is brought into contact with a catalyst system obtainable from a) at least one chromium source; b) at least one ligand comprising 1,3,5-tri-n-dodecyl-1,3,5-triazacyclohexane; and c) at least one activator comprising a boron compound, with the molar ratio of B:Cr being at least 5" (emphasis added). Maas does not disclose or suggest such a process.

The Office Action asserts that Maas discloses a process for oligomerizing olefins including contacting the olefins with a catalyst system including a chromium compound  $\text{CrX}_3$ , a ligand such as 1,3,5-tri-n-dodecyl-1,3,5-triazacyclohexane, and a boron compound such as trispentafluorophenylborane. *See* Office Action, page 4. Maas does, in fact, disclose that catalysts can separately include chromium compounds  $\text{CrX}_3$  (*see* column 4, line 51 to column 5, line 4), 1,3,5-tri-n-dodecyl-1,3,5-triazacyclohexane (*see* column 3, lines 22 to 23), and a boron compound (*see* column 7, line 54 to column 8, line 4). It is undisputed, however, that Maas does not disclose a catalyst including these three particular components, in combination, as recited in claim 1.

The Office Action appears to take the position that it would have been obvious to assemble the particular combination of components recited in claim 1, in view of Maas' general disclosure of the separate components. However, any assertion that such combination would have been obvious is rebutted by the results shown in the present

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\* Comments regarding Maas are made with reference to U.S. Patent No. 6,844,290, a U.S. counterpart to Maas.

specification – "[a] *prima facie* case of obviousness ... is rebuttable by proof that the claimed compounds possess unexpectedly advantageous or superior properties." *See* MPEP §2144.09 (citing *In re Paesch*, 315 F.2d 381 (C.C.P.A. 1963)). As discussed during the personal interview, the Examples of the present specification demonstrate that catalysts according to the present invention provide superior results relative to, for example, the catalysts of Maas (Comparative Example 4 actually corresponds to Example 21 of Maas). *See* present specification, page 5, line 40 to page 6, line 27. In particular, the Examples demonstrate that the presence or absence of the particular 1,3,5-triazacyclohexane compound of claim 1 (1,3,5-tri-n-dodecyl-1,3,5-triazacyclohexane) or the presence or absence of boron and chromium in the particular molar ratio recited in claim 1 (at least 5) dramatically affect the activity of the resulting catalyst. *See* present specification, page 6, Table. These results are objective evidence of the improvements of the catalyst of claim 1 over known catalysts as in Maas, and thus these results rebut any suggestion that it would have been obvious to modify the catalysts of Maas as proposed in the Office Action.

As explained, claim 1 is not anticipated by and would not have been rendered obvious by Maas. Claims 2, 3 and 5-20 depend from claim 1 and, thus, also are not anticipated by and would not have been rendered obvious by Maas. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Application No. 10/506,602  
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Conclusion

For the foregoing reasons, Applicants submit that claims 1-3 and 5-20 are in condition for allowance. Prompt reconsideration and allowance are respectfully requested.

Respectfully submitted,

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